

Application No.: 10/772,246

Docket No.: 20459-00346-US1

**REMARKS**

Reconsideration of claims 8-22 is respectfully requested. Claims 9, 12 and 18 are amended.

The rejection of claims 15-17 and 20 under 35 U.S.C. 112, first paragraph is respectfully traversed. The Office Action asserts that the claims contain "subject matter which was not described in the specification." In particular, the Office Action asserts that the term "not including binder" is new matter because the "drawing only relates to the A and B ingredients, not the amounts of A and B in the total composition", that is, there is no mention of binder in the drawing. Office Action, page 2, paragraph 2.

The term "not including binder" is supported in the application as filed. The application describes pressing a composition comprising guanidine dinitramide and guanyl urea dinitramide into tablets. Page 5, line 34 to page 6, line 4. "If required, a small amount -- preferably not more than 10 wt-% -- of binder may be added" to impart greater mechanical strength to the composition. Also, original claim 7, describes the composition in the form of pressed tablets, which can also contain a "binder whose total amount does not exceed 10 wt-%." The Office Action makes the point that the "drawing only relates to the A and B ingredients". This is indeed true. The exemplary embodiment was conducted in the absence of binder. However, other embodiments can include binder, and in that case, the claim again defines the composition with respect to the amounts of A and B alone. Because, there is written support for the term "not including binder." Applicant respectfully requests that the rejection be withdrawn.

The rejection of claims 8-22 under 35 U.S.C. 112, second paragraph, as being indefinite is respectfully traversed. The Office Action provides specific comments for only claims 9, 10, 12 and 18-22, and thus, Applicant limits his discussion to these claims.

The Office Action asserts that it is improper to claim a composition comprising A and B, and then in a corresponding dependent claim, further define the invention by claiming that A be present in an amount "greater than 50%". The Office Action asserts that the open ended range of claim 10 includes 100% A, that is, absolutely no B. Applicant as well as one of skill would respectfully disagree with such an understanding of claim 10.

Claim 10 defines a composition comprising A and B (claim 8), wherein A is present in an amount greater than 50% by weight. Therefore, the composition of claim 10 cannot include

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100% A. The composition can include 99.9% A, but not 100%. Accordingly, the reading of claim 10 in conjunction of claim 8 is not indefinite, and applicant respectfully requests withdrawal of the rejection.

With respect to claims 18-22, the Office Action asserts that because the Applicant claims an inflatable safety device and the one recited element merely describes the gas-generating composition as part of that safety device, the claims are indefinite for "omitting essential elements". Applicant respectfully disagrees. There is no statutory provision of section 112, second paragraph that requires an applicant to define his invention by including each and every element of a claimed device.

There are two statutory requirements under section 112, second paragraph. One, those of skill in the art must be able to tell with a reasonable degree of certainty whether his or her product is within or outside the scope of the claim. Simply stated, the claims must clearly set out the boundaries of the claimed subject matter. Two, the claims must be directed to the subject matter that the applicant regards as his or her invention. In this case, Applicant has chosen to define his invention as an inflatable safety device comprising a specific gas-generating composition as claimed. There is nothing about claims 18-22 that one of skill would find indefinite. Because the claims set out and circumscribe a particular area that the applicant regards as his invention with a reasonable degree of precision and particularity, the rejection is improper. Accordingly, Applicant respectfully requests that the rejection be withdrawn.

With respect to claim 9, applicant deleted the term "suitable" from the claim. Applicant also has amended claim 12, deleting the term "substance".

The rejection of claim 18 under 35 U.S.C. 101 is respectfully traversed with respect to the amended claim.

The rejection of claims 8-22 under 35 U.S.C. 103 as being unpatentable over Blomquist in view of Langlet is respectfully traversed. Applicant asserts that the claimed compositions and the placement of the compositions in an inflatable safety device is inventive over the cited references.

Blomquist (410) teaches the use of guanidine dinitramide in combination with an oxidizer as a gas-generating composition in a vehicle protection device. There is no reference to the use of guanidyl urea dinitramide in these combinations. In fact, a list of oxidizers, e.g., the inorganic

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nitrate and perchlorate, to be used with guanidine dinitramide are described at column 3, lines 63-67. This list makes no mention of guanyl urea dinitramide.

Langlet teaches the use of use of guanyl urea dinitramide as a gas-generating composition in a vehicle protection device. The guanyl urea dinitramide can be used alone or as a component in a propellant composition in place of a nitramine propellant. Page 2, lines 28-30. Like Blomquist (410) there is no teaching of a gas-generating composition containing both guanidine dinitramide and guanyl urea dinitramide, as claimed.

Applicant discovered that of all the many different compounds that can be used as a pyrotechnic, the selection of two very specific compounds provides a significant advantage when used in combination as a pyrotechnic composition for an inflatable safety device. That discovery is embodied in applicant's claims directed to a composition comprising guanidine dinitramide and guanyl urea dinitramide. While each of these two compounds was known *per se* and were used as a component in a pyrotechnic composition, as reflected in the cited references, their specific use together has not been described in any of the prior art cited by the examiner. Because there is no teaching or suggestion in the art that these two specific compounds should be selected from the vast array of available compounds and then combined, the rejection under 103(a) is improper and should be withdrawn. As further support of the claims, there is no reasonable expectation of success (i.e., any benefit) taught by the art were that combination made. *In re Laskowski*, 871 F.2d 115, 117 (Fed. Cir. 1989) ("[t]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification"). No such motivation to combine or expectation of success exists in the cited art.

In the United States, a proper rejection under 103(a) requires that the references cited against the claims must provide to a person skilled in the art having full knowledge of the art, the motivation for making such a composition. Some reason must exist from the teachings of the references (and not from the applicant's disclosure) to select these specified ingredients and put them together in a composition. It is not enough simply to say that there is a general teaching or desire to combine materials (and there is not) -- instead, one skilled in the art must be motivated by some teaching in the art to make the specific combination claimed. Then, only if such motivation exists (which applicant submits does not exist here), the art must teach a reasonable expectation of a successful result. The examiner has the initial burden to establish both

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motivation and reasonable expectation. Restated, the examiner must first establish, from the art, the motivation to select the ingredients, and then establish a reasonable expectation of success resulting from that selection.

Applicant, unlike others of skill in the art, recognized the shortcomings of prior gas-generating compositions. In particular, the application briefly describes many of these shortcomings, and then goes on to explain how the applicant arrived at his invention, and the many advantages associated with the inventive composition. For example, in contrast to the teachings of Langlet, the applicant notes that guanyl urea dinitramide (GUD) is "not all that suitable for use by itself as a gas-generating composition. GUD burns much too slow and generates too much carbon monoxide upon combustion. However, its relatively low rate of burn and its high thermal stability make it "particularly useful as a combustion modifier".

Application, page 5, lines 3-26. Neither Blomquist nor Langlet recognize the use of GUD as a combustion modifier, more importantly neither suggest that one of skill should combine GUD with guanidine dinitramide.

In support of the rejection, the examiner asserts that if the combination of two compounds, "each taught for the same purpose, to yield a third composition for the very purpose," then the third composition is *prima facie* obvious citing *In re Kerkhoven*. See, Office Action, page 5. Appellant questions the examiner's reliance and expansion of *Kerkhoven*, particularly to claims directed to chemical compositions.

The examiner's expansion of *Kerkhoven* is improper, and contrary to the statutory standard of §103 and the courts analysis of nonobviousness. The claims at issue in *Kerkhoven* were directed to a process of manufacture of particulate detergent compositions containing anionic and non-anionic actives. The claims were not directed to the detergent per se. This is a very important distinction because although a product or composition is novel and patentable, the process of making the product may not be. *In re Larson*, 292 F.2d 531 (C.C.P.A. 1961). As a result, one must examine "each statutory class of claims ... independently on its own merits." *In re Kuehl*, 475 F.2d 658, 665 (C.C.P.A. 1973).

In *Kerkhoven*, the Appellant claimed the use of separate streams, that is, stream A containing component A and stream B containing component B, and the introduction of the two streams into one or more spray driers. Claim 14 was generic to two different claimed processes: process (1), stream A is introduced into dryer A and stream B is introduced into dryer B (A and

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B are then physically mixed); and process (2), stream A and stream B are separately introduced into a single spray dryer. In both processes, the two streams are not mixed prior to their separate introduction into a spray dryer. The court affirmed the rejection under 103(a) as to process (1), but reversed the rejection as to process (2).

Process (1) was rejected over Coffey, which described the mixing of stream A with stream B in the presence of a mixing agent followed by introducing the mixed stream to a spray dryer. The court reasoned that because the claims were not limited by the exclusion of a mixing agent, the Appellant was required to show that the *claimed process* resulted in a product that was different or an improvement over the mixed stream process described in Coffey. The court focused on a particular class of claims, that is, process of making claims, and thus required the Appellant to submit evidence that the claimed process with the inclusion of Coffey's mixing agent provided a different product.

The facts relied upon by the court in *Kerkhoven* must be taken into careful consideration by the examiner. Otherwise an examiner could apply the holding of *Kerkhoven* against all claims directed to a combination of two or more known elements used for the same purpose. That is not that statutory standard under section 103. Rather, each case must be decided on its own facts, and with respect to "each statutory class of claims". *In re Kuehl*, 475 F.2d at 665. The patentability of the mixed active detergent composition was never an issue in *Kerkhoven*.

The claims at issue in this case are directed to a composition comprising guanidine dinitramide and guanyl urea dinitramide. For sure, the applicant is not attempting to claim the making of the claimed composition. For this reason alone, the application of *Kerkhoven* against applicant's claims is improper. Second, the examiner's attempt to expand *In re Kerkhoven* to the inclusion of composition claims has already been rejected by the Court in *In re Geiger*, 815 F.2d 686 (Fed. Cir. 1987).

Appellant's argument for patentability is further supported by the court's holding in *In re Geiger*. In *Geiger*, the court addressed the Board's rejection of claims to a method of inhibiting scale formation and corrosion of metal using three ingredients each of which had been separately used for the very *same* purpose. In reversing the Board, the court summarized the Board's *improper* analysis as follows.

"Based upon the prior art and the fact that each of the three components of the composition used in the claimed method is conventionally employed in the art

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for treating cooling water systems, the board held that it would have been prima facie obvious, within the meaning of 35 U.S.C. § 103, to employ these components in combination for their known functions and to optimize the amount of each additive."

*Id.* at 687.

In the present case, the examiner is applying the exact argument against applicant's claims, which the court has already rejected,. The court in *Geiger* reversed the Board, and expressly rejected the Board's application of *Kerkhoven*, even though the claimed compounds were previously used as anti-scale or anti-corrosion agents, i.e., for the same purpose. Also, the examiner has not, to date considered how the court's holding in *Geiger* and *Jones* fits with the court's holding in *Kerkhoven*. Without such consideration the examiner's application of *Kerkhoven* is overly expansive.

Lastly, applicant submits that the Office Action improperly asserts that the claimed combination is unpatentable by using the applicant's own disclosure to reject the claims. As stated by the court in *Rouffet*, "the examiner must show reasons that the skilled artisan, ... with no knowledge of the claimed invention, would select the elements from the cited prior art references for [the claimed] combination." In this case, the elements of the claimed combination include both guanidine dinitramide and guanyl urea dinitramide. Yet, none of the cited references even mention, or hint at, combining these two compounds in a single composition

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 20459-00346-US1 from which the undersigned is authorized to draw.

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Respectfully submitted,

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